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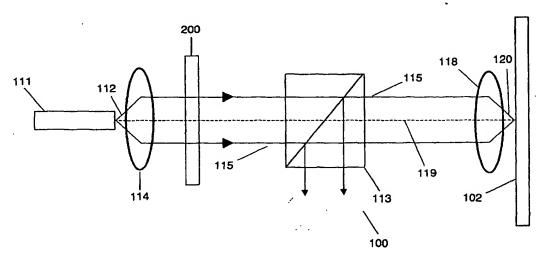
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[Continued on next page]

(54) Title: SCANNING DEVICE INCLUDING AN OPTICAL FILTER



(57) Abstract: An optical scanning device (1; 100) for scanning an information layer (4) of an optical record carrier (2; 102). The device comprises a radiation source (11; 111) for generating a radiation beam (12, 15, 20; 112, 115, 120), an objective system (18; 118) for converging the radiation beam on the information layer (4), and an optical filter (200) for regulating the intensity profile of the radiation beam. The filter has an optical axis (119) and comprises a saturable absorber (206) having an absorption that saturates at a threshold incident radiation intensity. For incident radiation beams of intensity less than the threshold, the absorption of the absorber decreases with distance away from the axis.



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Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

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Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to daim No.
A	US 3 558 208 A (HUDSON KENNETH C) 26 January 1971 (1971-01-26) column 1, line 14 -column 1, line 18 column 1, line 60 -column 2, line 21 column 4, line 21 -column 5, line 67	1-12
Α	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 08, 30 June 1999 (1999-06-30) & JP 11 073677 A (YAMAHA CORP), 16 March 1999 (1999-03-16) abstract	1-8,11,
A .	US 5 231 624 A (FINEGAN JOEL D) 27 July 1993 (1993-07-27) column 3, line 28 -column 4, line 24 abstract	1-8,11, 12

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PCT/IB 03/04811

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	Atlan) DOCUMENTS CONSIDERED TO BE RELEVANT	Relevant to claim No.		
Category •	Citation of document, with Indication, where appropriate, of the relevant passages	TEBVAIA to California.		
A	US 5 920 537 A (HAYASHI HIDEKI ET AL) 6 July 1999 (1999-07-06) column 2, line 66 -column 3, line 64 column 9, line 36 -column 9, line 63; figures 13,14 abstract	1-8,11, 12		
A	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 10, 31 August 1998 (1998-08-31) & JP 10 124902 A (SANYO ELECTRIC CO LTD), 15 May 1998 (1998-05-15) abstract	1-8,11,		

# INTERITIONAL SEARCH REPORT

International A

ion No

PCT/IB 03/04811

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 3558208	A	26-01-1971	CH DE FR GB SE US	497019 A 1773769 A1 1577568 A 1179800 A 333257 B 3465347 A	30-09-1970 30-12-1971 08-08-1969 28-01-1970 08-03-1971 02-09-1969
JP 11073677	Α	16-03-1999	NONE		
US 5231624	Α	27-07-1993	NONE		
US 5920537	A	06-07-1999	CN JP US	1148240 A ,B 9050648 A 5754512 A	23-04-1997 18-02-1997 19-05-1998
JP 10124902	Α	15-05-1998	NONE		